BUILDING TRUST

PRODUCT DATA SHEET

Sikaplan® WT 4220-18 H

POLYOLEFIN MEMBRANE FOR POTABLE WATER TANK WATERPROOFING

CE

DESCRIPTION

Sikaplan® WT 4220-18 H is a polyolefin flexible, homogeneous, smooth sheet membrane. Thickness 1.8 mm. For temperatures up to +40 °C. Approved for potable water, the product provides a microbiological, soft and hard water resistant, durable and heat weldable membrane.
Suitable for use in hot and tropical climatic conditions.

USES

Sikaplan® WT 4220-18 H may only be used by experienced professionals.
- Lining of enclosed potable water tanks

CHARACTERISTICS / ADVANTAGES

- Approved for contact with potable (drinking) water
- Contains no solvents, fungicides, heavy metals, halogens or plasticisers
- Resistant against permanent water temperature up to +40 °C
- Resistant to microbiological degradation
- Flexible in cold temperatures
- Suitable for contact with soft and hard water.
- Can be installed on damp and wet substrates
- Heat weldable
- Temporary UV stable (350MJ/m² acc. EN 12224)
- Bitumen resistant

APPROVALS / CERTIFICATES

CE Marking and Declaration of Performance to EN 13361 - Geosynthetic barriers - Characteristics required for use in the construction of reservoirs and dams.

PRODUCT INFORMATION

Product Declaration	EN 13361 - Geosynthetic barriers for reservoirs and dams	
Composition	Polyolefin (FPO-PP)	
Packaging	Roll size	0.54 m (roll width) × 5.00 m (roll length) or 1.08 m × specified length
	Unit weight	1.67 kg/m²
Appearance / Colour	Surface	Smooth
	Membrane thickness	1.80 mm
	Colour	Blue
Shelf life	The product does not expire during correct storage.	

Storage conditions	Product must be stored in original unopened and undamaged sealed packaging in dry conditions and temperatures between + 5 °C and + 35 °C. Protect from direct sunlight, rain, snow and ice, etc. Store in a horizontal position. Do not stack pallets of the rolls on top of each other, or under pallets of any other materials during transport or storage. Always refer to packaging.	
Effective Thickness	1,80 (-5 / + 10 %) mm	(EN 1849 - 2)
Mass per unit area	1,67 (-5 / + 10 %) kg/m²	(EN 1849 - 2)

TECHNICAL INFORMATION

Tensile Strength	> 20.5 N/mm² (machine direction)		(ISO 527)
Elongation	≥ 700 % (machine/cross direction)		(ISO 527)
Burst Strength	≥50 % (D = 1.00 m)		(EN 14151)
Resistance to Static Puncture	~3.00 kN		(EN ISO 12236)
Permeability to Liquid Water	Pass (≤ 10^{-7} $m^3 \times m^{-2} \times d^{-1}$)		(EN 14150)
Foldability at Low Temperature	No cracks at -50 °C		(EN 495 - 5)
Tear Strength	≥ 120 kN/m (V = 50mm/min)		(ISO 34, method B)
Coefficient of Thermal Expansion	230 x 10^{-6} (±55 × 10^{-6}) 1/K		(ASTM D 696 - 91)
Resistance to Oxidation	Change of tensile strength and elongation:	≤ 15 %	(EN 14575) (ISO 527)
Microbiological Resistance	Change of tensile strength: Change of elongation:	≤ 10 % ≤ 10 %	(EN 12225) (ISO 527)
Resistance to Environmental Stress Cracking	≥ 200 h		(ASTM D 5397 - 99)
Resistance to Weathering	Remaining tensile strength and elongation:	≥ 75 % (350 MJ/m²)	(EN 12224) (ISO 527)
Resistance to Root Penetration	Pass		(CEN/TS 14416)

SYSTEMS

System Structure	Ancillary Products: ▪ Sikaplan® WT 4220-15C, Sikaplan® WT 4220-15C Felt 500 ▪ Sarnafil® T Clean, cleaner for soiled membrane surface ▪ Sikaplan® WT External/Internal Corner 90° preformed PE ▪ Sikaplan® W Flat Profile Stainless Steel ▪ Sikaplan® WT Fixation Plate PE light blue ▪ Sarnafil® T Prep, cleaner for membrane surface preparation prior to welding

APPLICATION INFORMATION

Ambient Air Temperature	+5 °C min. / +35 °C max.
Substrate Temperature	0 °C min. / +35 °C max.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Substrates shall be clean, dry and free of all contaminants such as dirt, oil, grease, existing coatings, surface treatments, dust, loose friable particles, cement laitance and other poorly adhering materials.
Prior to the installation of Sikaplan® WT 4220-18 H. The substrate must be disinfected by spraying disinfectant Sikagard® SB, or similar.
If a cushion layer is not specified. Install a geotextile (non-woven fabric) with minimum density of 300 g/m² beneath the membrane.

APPLICATION METHOD / TOOLS

Installation procedure
Refer to the relevant method statement.
Loosely laid and mechanically fixed.
Welding overlap seams
All membrane overlaps must be welded by using hand welding guns and pressure rollers or automatic heat welding machines, with individually adjustable and electronically controlled welding temperatures.
Recommended welding equipment
Manual - Leister Triac PID / Automatic - Leister Twinny S / Semi-automatic - Leister Triac Drive. Welding parameters, such as speed and temperature must be established with trials on site, prior to any welding works.
Sarnafil® T Prep must be used for seam preparation and cleaning of slightly soiled membrane surfaces.
Sarnafil® T Clean must be used for seam cleaning of soiled membrane surfaces.
The watertightness of the structure must be tested and approved after completion of the membrane installation works according to the requirements of the client's specifications.The cleaning and disinfection procedures of the installed membrane surfaces must be carried out in accordance with the requirements of the local water authority.

FURTHER INFORMATION

Method Statement: Sikaplan® WT 4220 sheet membrane Waterproofing systems for lining of potable water reservoirs

IMPORTANT CONSIDERATIONS

- Installation work must only be carried out by Sika® trained and approved contractors, experienced in lining of potable water tanks and reservoirs.
- Precautions must be taken for installation in wet conditions, at temperatures below +5 °C, and when the relative air humidity (RH) is more than 80 %.
- The effectiveness of these precautions must be proven by taking measurements.
- Fresh air ventilation must always be ensured and in accordance with all relevant local regulations for confined working.
- Do not use for permanent water temperature exceeding +40 °C
- Do not use for continual or frequent dosage of free chlorine exceeding 0.8 mg/l
- Do not use as a tank lining exposed to weathering and UV-light

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

REGULATION (EC) NO 1907/2006 - REACH

This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in the product data sheet. Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0,1 % (w/w)

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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